

IN THE SPECIFICATION:

On page 1, after the title, on line 2, insert the following paragraph:

This application claims the benefit of U.S. Patent Application 08/972,464, filed November 14, 1997, now U.S. Patent 6,618,174, which claims the benefit of U.S. Provisional Application No. 60/030962, filed on November 15, 1996.

On page 53, after the word, "ABSTRACT" please delete the three paragraphs of the abstract and insert the replacement single paragraph:

~~—An optically made, high-efficiency in-line holographic mask (ILHM) for in-line holographic patterning of a workpiece, and apparatus and methods for performing same. The ILHM of the present invention combines the imaging function of a lens with the transmission properties of a standard amplitude mask, obviating the need for expensive projection optics.~~

~~—The ILHM of the present invention is formed using either a type I (non-opaque) or type II (opaque) specialized object mask having one or more substantially transparent elements which can be phase-altering, scattering, refracting and/or diffracting.~~

~~—One aspect of the invention is a method of creating a pattern on a workpiece including the steps of providing an illumination beam and disposing an ILHM therein; disposing a workpiece adjacent the ILHM; and illuminating the ILHM to impart a pattern to the workpiece. An additional aspect of the invention includes a method of patterning a workpiece with an ILHM wherein the ILHM is used in combination with a lens. The ILHM is disposed such that a holographic real image is formed at or near the lens object plane, and the workpiece is disposed at or near the lens image plane. Apparatus for patterning a workpiece using an ILHM are also disclosed.~~

~~—The present invention has application for wavelengths ranging from the IR to x-ray, and is well-suited for use in industrial in-line exposure apparatus for patterning a wide variety of workpieces for many different applications.~~

A method of fabricating a holographic mask includes the steps of providing an illumination source and a non-opaque object mask. The source is for generating a coherent illumination beam directed along an axis. The object mask is capable of transmitting a portion of the illumination beam as undiffracted reference wavefronts. The object mask has one or more substantially transparent elements for creating overlapping object wavefronts when the illumination beam is incident thereon. The object mask is disposed in the illumination beam. A holographic recording medium is provided in the illumination beam in line optically with the object mask. The object mask is illuminated with the illumination beam, thereby causing the object mask to allow undiffracted reference wavefronts to pass therethrough. The illumination directed along the axis causes the one or more substantially transparent elements to create object wavefronts

which interact with the undiffracted reference wavefronts to create an interference pattern.